

# How to configure the ADPCM card in the IMACS

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## Scope

This document pertains to the following products: IMACS: 600, 800 and 900.

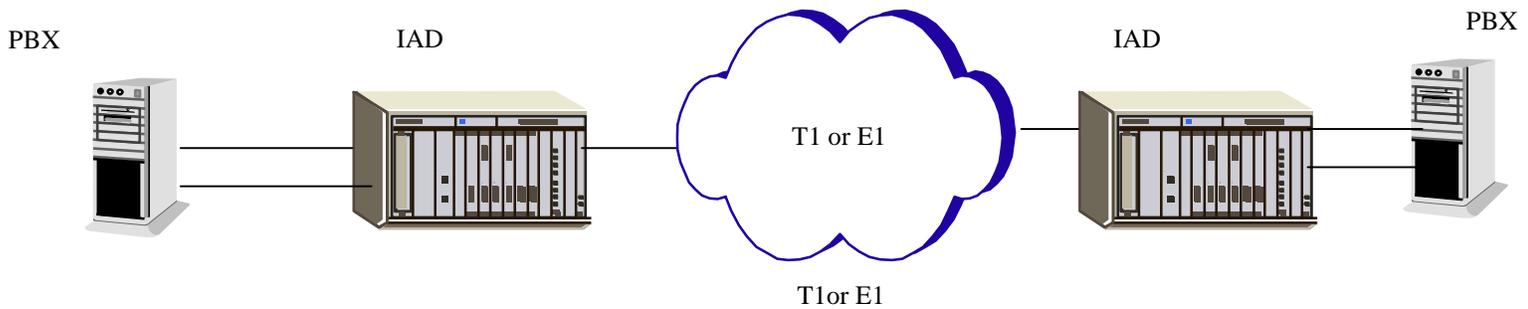
## Introduction

The 8871 ADPCM (Adaptive Differential Pulse Code Modulation) server card is designed to compress digital and analog voice traffic for transmission over wide area network links. The level of compression for an individual channel is software configurable at 24Kbps, 32Kbps or 40Kbps. A single ADPCM card is capable of compressing 64 channels of voice simultaneously. The ADPCM card can be originated from a variety of interfaces, including FXS, FXO, E&M, SRU, BRI, and T1/E1. Up to two ADPCM server cards can be supported per integrated access system for a total of 128 compressed voice channels. A third ADPCM server card can be utilized for 1:N redundancy. The compression rates for the engine pair must equal 64Kbps, 32Kbps circuit paired with a 32Kbps circuit or 40Kbps circuit paired with a 24Kbps circuit and vice-versa. The ADPCM server card can also pair a low speed asynchronous data transmission (19.2Kbps or less) from an SRU port with a 40kbps engine. This data path will occupy a 24Kbps engine. Group II FAX is supported in 32Kbps channels and Group III FAX is supported in 40Kbps channels. Modem support up to 4.8Kbps, and V.32bis to 9.6Kbps is supported in 32Kbps channels. Modem speeds up to 12Kbps, and V.32bis speeds up to 14.4Kbps is supported in 40Kbps channels. Modem data is not supported in 24Kbps channels. The ADPCM card supports Transition Signaling as defined by ANSI T1.302-1989 with the exception of the Alarm bits. ANSI T1.302 specifies signaling at the 32Kbps compression rate. The ADPCM card can be used in a variety of applications to reduce the number of transmission lines for efficient transport of voice traffic. It can be used in:

- PBX to PBX trunk application
- Automatic Call Distribution application
- Efficient wireless base station/hub application

## Network Diagram

Shows the IAD with an ADPCM server used to compress two T1 or E1 PBX-to-PBX trunks into a single trunk. The voice from each PBX is connected via a digital T1 or E1 connection to the IAD. The voice channels are routed to the ADPCM server, where each voice channel is compressed to 32 Kbps. The compressed voice is routed to the outbound T1/E1 link to the other IAD unit, where it is decompressed and placed back into two T1 or E1 trunks to the remote PBX. PBX to PBX trunk lines can be compressed 2:1 to reduce leased line charges. The application is also valid for analog PBXs and key systems.



## Requirements

### Hardware:

- CPU card
- Interface card
- ADPCM
- Users card: FXS, FXO, E&M, SRU, BRI,

### Software:

- VT-100 emulation terminal program (Ex. HyperTerminal or ProComm Plus)

## Configuration Steps

### 1. Set up the ADPCM configuration

You must configure the ADPCM card ports for operation. This is done from the ADPCM Card Main Screen, which is shown in Figure 1-1. To go to this screen, highlight the ADPCM card in the System Main Screen and press <Enter>.

**Figure 1-1. Typical ADPCM Card Main Screen**

The bottom highlighted line of this screen shows several actions you can perform from the screen. To perform an action, simply press the key indicated by the uppercase letter of the desired action. For example, to save your configuration settings, press “s” to invoke the **Save** command.

Figure 1-1

```
Node_1 | P1 ADPCM-64 Rev A0-0 Ser 00101 | 12-31-99 14:33
version #:1.33
```

	1	2	3	4	5	6	7	8
STATE	stdby							
USER	n/a							
WAN/SERV	w1-1							
TS	01	01	01	01	01	01	01	01
ADPCM W/S	w1-1							
ADPCM TS	01	01	01	01	01	01	01	01
TYPE	v&s							
RATE	24k							
SIG MODE	e&m							

CODING u-law u-law u-law u-law u-law u-law u-law u-law  
 TC CGA idle idle idle idle idle idle idle idle  
 Save | Undo | Refresh | pg\_Left | pg\_righT | sWitch | Main

1a. Select time slot on WAN link chosen that ADPCM card will send outgoing compressed traffic.

1b. Select voice type.

1c. Select rate.

## 2. Parameter User Options Default

Parameter De	User Options	Default
STATE	stdby actv rdnt	stdby
USER	n/a uX-1 through uX-8 n/a	
WAN/SERV	n/a w1-1 w1-2 w2-1 w2-2 w3-1 w3-2 w4-1 w4-2	none
TS	n/a 01-24 01-31	01
ADPCM W/S	w1-1 w1-2 w2-1 w2-2 w3-1 w3-2 w4-1 w4-2	none
ADPCM TS	01-24 01-31 01	01
TYPE n/a	v&s v trnsp	V&s
RATE n/a	24k 32k 40k	24k
SIG MODE n/a	e&m fxs plar fxo user	E&M
CODING n/a	u-law a-inv u-law	u-law
TC CGA n/a	idle busy idle	idle

## Troubleshooting

If you have selected your parameters, yet you're unable to pass data.

- Re-Check your work selected parameters settings.
- Verify that ports are active.
- Verify your wan links are active.
- Ensure ADPCM card is seeded correctly.
- Ensure you have the correct software host version to support your ADPCM card.